

Final Revision Geometry 3rd preparatory**1. Choose the correct answer:**

1) The numbers that can be the lengths of sides of a right triangle are _____

a) 5 , 4 , 3

b) 3 , 4 , 6

c) 5 , 13 , 11

d) 6 , 8 , 12

2) *The length of the side opposite to the angle of measure 30° in the right-angled triangle equals _____ the length of the hypotenuse*

- a) quarter b) half c) double d) third*

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3) The distance between the point $(-4, -3)$ and the x -axis equals _____ length unit

a) 4

b) -4

c) 5

d) 3

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4) *If the measure of two angles of a triangle are 70° and 50° , then the number of its axes of symmetry equals _____*

a) zero

b) 1

c) 2

d) 3

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5) The distance between the point $(-4, 3)$ and the y-axis equals _____ length unit

a) -4

b) 2

c) 4

d) 7

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6) *The volume of the cube whose edge length is 8 cm equals _____ cm^3*

a) 2

b) 32

c) 64

d) 512

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7) *The sum of the measures of all interior angles of any quadrilateral is ____*

a) 90

b) 180

c) 360

d) 540

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8) If ABC is a right-angled triangle at B , then:

$$\sin A + \cos C = \underline{\hspace{2cm}} \text{ (where } m(\angle A) \neq m(\angle C) \text{)}$$

a) $2\cos A$

b) $2\sin C$

c) $2\sin A$

d) $2\tan A$

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9) *The sum of the measures of all interior angles of the pentagon equals ____ °*

a) 540

b) 360

c) 180

d) 90

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10) If y -axis bisects \overline{AB} where $A(5, 2)$, $B(x, 7)$, then

$x =$ _____

a) -2

b) -5

c) -7

d) -9

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11) The straight line which passes through the point (5 , 4) and is parallel to the y-axis, its equation is

a) $x = 5$

b) $y = 4$

c) $x = -5$

d) $y = -4$

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**12) DHO is a right-angled triangle at O , if $\tan D = 1$,
then _____**

a) $m(\angle D) = m(\angle O)$

b) $DH = DO$

c) $m(\angle H) = m(\angle O)$

d) $DO = OH$

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13) A square, if its perimeter is 20 cm, then its surface

area = _____ cm^2

a) 100

b) 25

c) 16

d) 5

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14) If the two vertically opposite angles are supplementary, then the measure of each of them equals _____ °

a) 120

b) 60

c) 90

d) 180

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15) If the area of a square is 50 cm^2 , then the length of its diagonal equals _____ cm

a) $5\sqrt{2}$

b) 10

c) $10\sqrt{2}$

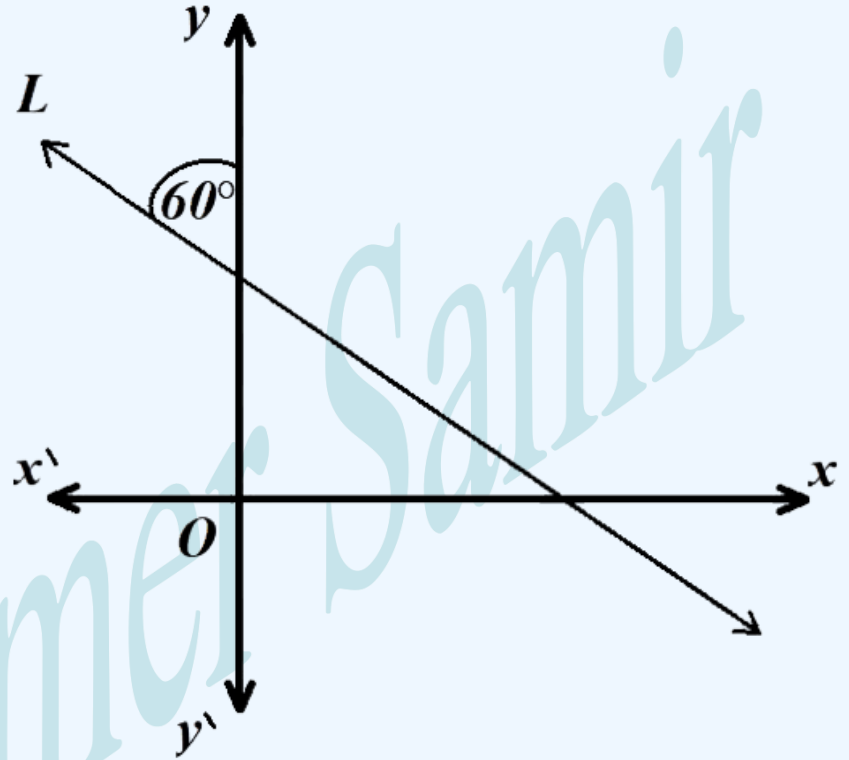
d) 5

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16) In the opposite figure:

The slope of the straight line $L =$ _____

- a) $\frac{\sqrt{3}}{3}$ b) $\sqrt{3}$ c) $-\sqrt{3}$ d) $-\frac{\sqrt{3}}{3}$



17) $ABCD$ is a parallelogram, $m(\angle A) = 80^\circ$, then

$m(\angle B) =$ _____

a) 40°

b) 100°

c) 80°

d) 160°

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18) If $\triangle ABC$ is an isosceles triangle in which

$AB = 3 \text{ cm}$, $BC = 7 \text{ cm}$, then $AC = \underline{\hspace{2cm}} \text{ cm}$

a) 3

b) 4

c) 7

d) 10

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19) The sum of the measures of all accumulative angles around one-point equals _____ °

a) 90

b) 180

c) 270

d) 360

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20) The image of the point $(3, -2)$ by reflection across the origin point is _____

a) $(-3, 2)$

b) $(-3, -2)$

c) $(3, 2)$

d) $(2, 3)$

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21) If the two straight lines $x + y = 4$ and $ax + 3y = 0$ are perpendicular, then $a =$ _____

a) -3

b) -1

c) 1

d) 3

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22) In $\triangle ABC$, if $m(\angle A) = 85^\circ$ and $\sin B = \cos 2B$,
then $m(\angle C) = \underline{\hspace{2cm}}^\circ$

a) 30

b) 45

c) 60

d) 65

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23) If the points $A(0, 1)$, $B(x, 3)$, $C(2, 5)$ are collinear, then $x =$ _____

a) 1

b) 2

c) -1

d) 3

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24) The point of concurrence of the medians of the triangle divides each median by the ratio of _____ : 5 from the vertex

a) 5

b) 2

c) 1

d) 10

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25) If the measure of one of the interior angles of a regular polygon is 135° , then the number of its sides

a) 6

b) 7

c) 8

d) 9

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26) The perpendicular distance between $x = 5$, $x + 3 = 0$ equals _____ length unit

a) 2

b) 8

c) -8

d) 4

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27) The distance between the point $(5, \tan^2 60^\circ)$ and the x -axis is _____ length unit

a) 5

b) $5\sqrt{3}$

c) 3

d) $3\sqrt{3}$

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28) The number of diagonals of the hexagon is _____

a) 6

b) 3

c) 12

d) 9

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29) *The tangent of an acute angle of the right-isosceles triangle is equal to _____*

a) $\sqrt{3}$

b) $\frac{1}{\sqrt{3}}$

c) 1

d) $\frac{\sqrt{2}}{2}$

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30) The two straight lines: $y = ax + b$ and $y = cx + d$ are perpendicular, then _____ = -1

a) $a \times d$

b) $b \times c$

c) $a \times c$

d) $b \times d$

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31) The equation of the straight line passing through the point (5 , -4) and perpendicular to the y-axis is

a) $y = -4$

b) $x = 5$

c) $y = 4$

d) $x = -5$

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32) If $\cos \frac{x}{2} = \frac{\sqrt{3}}{2}$, where x is the measure of an acute angle, then $\sin x =$ _____

a) $\frac{1}{2}$

b) $\frac{1}{\sqrt{3}}$

c) $\frac{2}{\sqrt{3}}$

d) $\frac{\sqrt{3}}{2}$

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33) *The distance between the point $(-3, 4)$ and the origin point is _____*

a) 1

b) zero

c) 3

d) 2

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34) The straight line whose equation is: $cx + ay + b = 0$
its slope is _____

a) $\frac{-a}{b}$

b) $\frac{-a}{c}$

c) $\frac{-b}{c}$

d) $\frac{-c}{a}$

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35) *The sum of measures of the exterior angles of the equilateral triangle is _____*

a) 120°

b) 60°

c) 360°

d) 180°

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36) x and y are the measures of two complementary angles and $\sin x = \frac{3}{5}$, then $\cos y =$ _____

a) $\frac{4}{5}$

b) $\frac{3}{5}$

c) $\frac{3}{4}$

d) $\frac{5}{3}$

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37) The sum of measures of the interior angles of the parallelogram is _____

a) 90°

b) 180°

c) 270°

d) 360°

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38) Two complementary angles, the measure of one is 55° , then the measure of the other is _____

a) 45°

b) 35°

c) 25°

d) 15°

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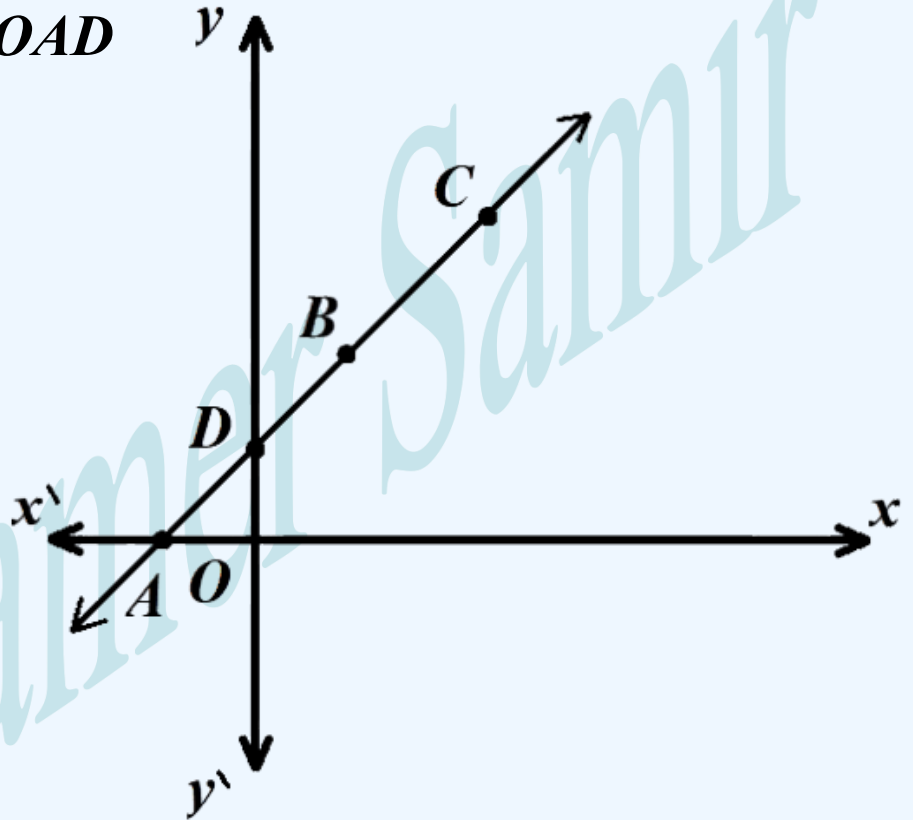
2. Answer the following essay questions:

1) In the opposite figure:

$B(1, 2)$, $C(3, 4)$ Find:

a) The equation of \overleftrightarrow{AC}

b) The area of $\triangle OAD$



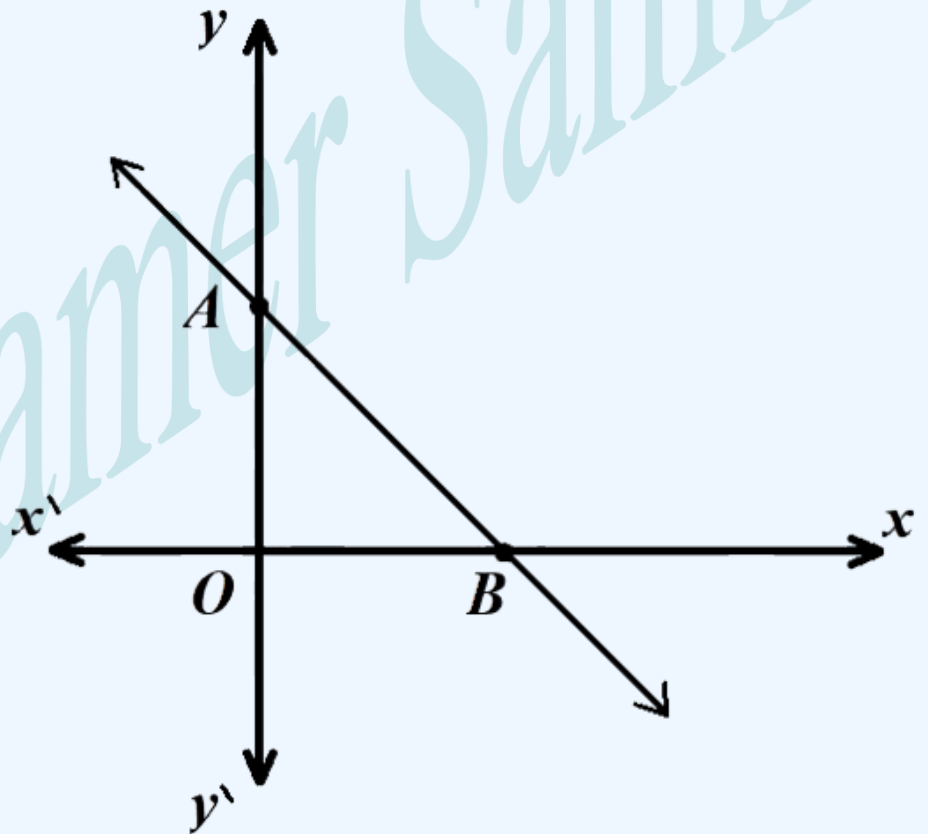
2) If the distance between the two points $(x, 5)$, $(6, 1)$ equals $2\sqrt{5}$ length unit, find the value of x

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3) In the opposite figure:

If \overleftrightarrow{AB} cuts the x -axis and y -axis at the two points B and A respectively, $OB = 4$ length units, $OA = 4$ length units, Find:

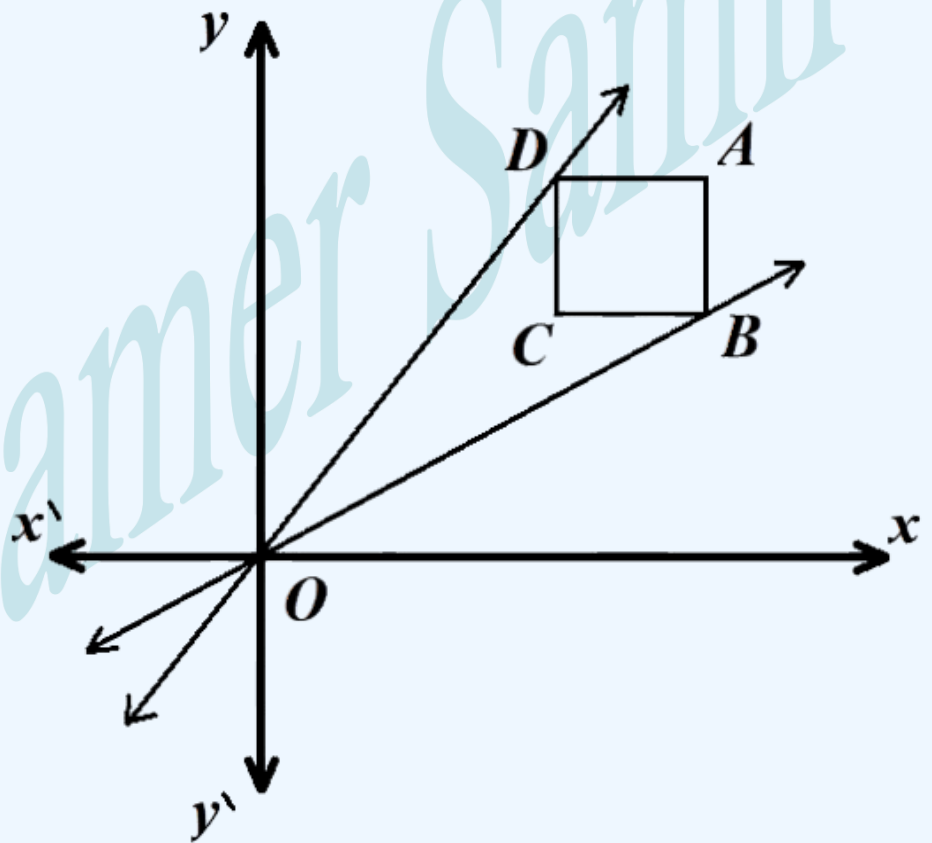
- The slope of \overleftrightarrow{AB}
- The equation of \overleftrightarrow{AB}



4) In the opposite figure:

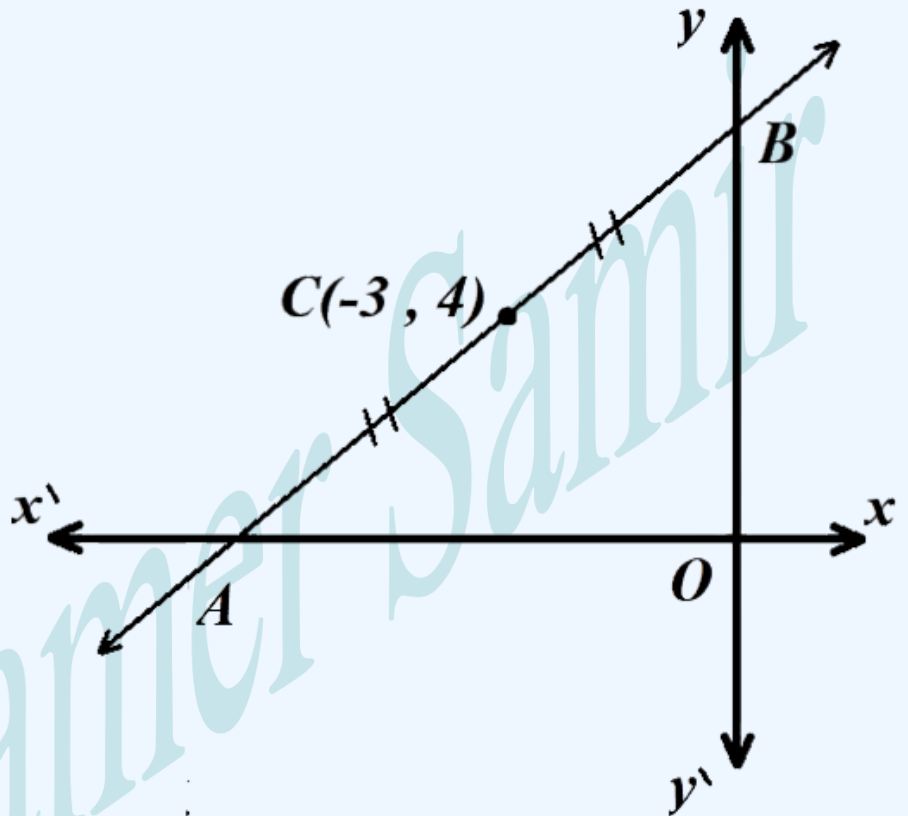
$ABCD$ is a square, $A(8, 9)$, $\overline{BC} \parallel \overleftrightarrow{xx'}$, $\overline{AB} \parallel \overleftrightarrow{yy'}$, the equation of \overleftrightarrow{OB} is $y = \frac{3}{4}x$, Find:

- The coordinates of the point D
- The equation of \overleftrightarrow{OD}



5) In the opposite figure:

The point $C(-3, 4)$ is the midpoint of \overline{AB} , Find the coordinates of the points A and B



6) If $\overleftrightarrow{AB} \parallel y\text{-axis}$ where $A(x, 7)$, $B(3, 5)$, find the value of x

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